

PROTOCOL FOR UPDATING APPROVALS FOR DRINKING-WATER SYSTEMS



Ministry of the Environment

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Introduction

The Ministry of the Environment (Ministry) has a broad mandate to provide for the protection and conservation of the natural environment of Ontario. Through the provisions of the *Safe Drinking Water Act, 2002*, the Ministry also has the mandate of providing for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking-water systems. Approvals are one way that the Ministry works to achieve this mandate.

For the first time, the Ministry has documented its protocols for updating approvals to provide a “one stop” information source on *how* and *when* approvals are updated through a continuous improvement cycle. These protocols will:

- clearly communicate to proponents in the regulated community and to the public the Ministry’s objectives and processes for updating specific types of approvals;
- outline the Ministry’s current approach for updating approvals that it reviews. While this approach may change over time, this information will assist proponents to understand which approvals are more likely to be considered for updating;
- improve the administration of the approvals process by encouraging consolidation of approvals;
- actively encourage pre-application consultation with proponents to explain the environmental protection requirement of the project;
- promote consistency in the approvals process; and
- provide opportunities for public transparency in Ministry decision making and foster continuous improvement.

These protocols for updating approvals will continue to take a balanced approach. This approach looks at both the benefits and cost of implementing new requirements to achieve those benefits without compromising health or safety.

The Ministry has produced four protocols for updating approvals, each targeted to one of the following environmental media:

- Sewage Works
- Air Emissions
- Drinking-Water Systems
- Waste Management

Each protocol contains the same basic information regarding the overall review process and is customized for the specific type of approvals.

This is the *Protocol for Updating Approvals for Drinking-Water Systems* (Protocol). Information in this Protocol is organized in four sections:

- Introduction
- What are Certificates of Approval / Approvals?
- Protocol for Updating Drinking-Water Systems Approvals
- Assessment Criteria for Drinking-Water Systems

Additional information can be obtained from:

Ministry of the Environment
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5

Telephone: (416) 314-8001 or Toll Free: 1-800-461-6290
Fax: (416) 314-8452

Or visit the Ministry Web site at: www.ene.gov.on.ca.

What are Certificates of Approval / Approvals?

Certificates of Approval (Cs of A) are required by the *Environmental Protection Act* and the *Ontario Water Resources Act* for specific activities related to sewage works, air and noise emissions, and waste management activities. Approvals are required by the *Safe Drinking Water Act, 2002* for specific activities related to drinking-water systems.

The review of applications and issuance of approvals for drinking water treatment systems are undertaken in the Approvals and Licencing Section of the Safe Drinking Water Branch, Drinking Water Management Division. Approvals for water distribution systems are processed in the Environmental Assessment and Approvals Branch, Operations Division.

The primary purpose of approvals, in the context of drinking-water systems, is to ensure that the proposed system or amendments to the system will deliver water that is safe for consumers and meets the Ontario Drinking Water Standards. In addition, the approvals outline performance standards that:

- protect human health and the environment by preventing potential harmful effects;
- require a facility to conform to generally accepted engineering practices with the potential to operate reliably;
- provide minimum requirements for compliance as set out in acts, regulations, standards, policies, guidelines and procedures; and
- outline specific responsibilities of facility owners and operators.

Each approval is site-specific and tailored to the individual circumstances and characteristics of the facility and its local environment. The approval places legally-binding requirements on the owner/operator of the facility intended to prevent or manage environmental impacts and ensure safe water is delivered.

An approval reflects the Ministry's environmental and human health protection requirements in effect at the time it is issued. New environmental protection requirements continue to be developed over time and are reflected in Ministry policies, guidelines, procedures, and legislative/regulatory frameworks. One of the purposes of this Protocol is to formalize a continuous improvement cycle so that existing approvals keep pace with these changes.

A Director, for the purposes of this Protocol, is an individual that is appointed pursuant to Section 6 of the *Safe Drinking Water Act, 2002* (SDWA) by the

Minister of the Environment. A decision on whether to update an approval, in accordance with this Protocol, is made by the Director, on an individual basis using his or her discretion as outlined in Section 36(1) of the SDWA. This gives the Director the discretionary authority to grant or amend an approval, refuse to grant or revoke or suspend the approval.

Ministry documents such as this and other appropriate documents in Appendix A may be considered by the Director in making these decisions.

Protocol for Updating Drinking-Water Systems Approvals

What are the Objectives of the Protocol?

The focus of the *Protocol for Updating Approvals for Drinking-Water Systems* is on facilities for the treatment of water for human consumption. This includes the following groups of facilities:

- Facilities defined under the Drinking-Water Systems Regulation (Ontario Regulation 170/03).
 - Large municipal: a drinking-water system that serves a major residential development with more than 100 private residences; and
 - Small municipal: a drinking-water system that serves a major residential development with fewer than 101 residences.
- Other public drinking-water systems that have been issued an approval.

The Ministry may also choose to assess and update approvals for these types of drinking-water systems based on site-specific information or to support other environmental protection priorities at any time.

The detailed assessment criteria used by the Ministry to determine new or changed requirements that will be included in updated drinking-water systems approvals are discussed in the next section.

When will the Protocol be used to update an Approval?

When the Ministry reviews an existing Drinking-Water System approval for any reason, this Protocol will be used to determine if any changes to requirements should be incorporated. An outline of this process is presented in Figure 1.

The Ministry may review an existing approval when:

- an owner makes an application to the Ministry for an amendment to the approval;
- an Engineer's Report is received under the provisions of Schedule 20 of Regulation 170/03; or
- Ministry staff, through the course of compliance, inspection or enforcement activities, identify a facility that is appropriate for a more in-depth assessment.

What is the Process?

Regardless of the mechanism used to trigger the approval review, this Protocol will be used to determine the scope of the update. The more assessment criteria that apply to an approval (details in next section), the more likely it is that an approval update will be required.

The Ministry will work and communicate directly with the facility owner throughout the process when a proponent with an existing approval comes forward with an application to amend its current operation. Pre-application consultation is an important component of the application process. It can include discussing the extent to which the Ministry may require new or amended requirements in an updated approval. By actively engaging in dialogue, the Ministry and the proponent can work together to define the public health or environmental protection requirements of the project (for example establishing general acceptability of the proposed technology, identifying any special approval-related requirements).

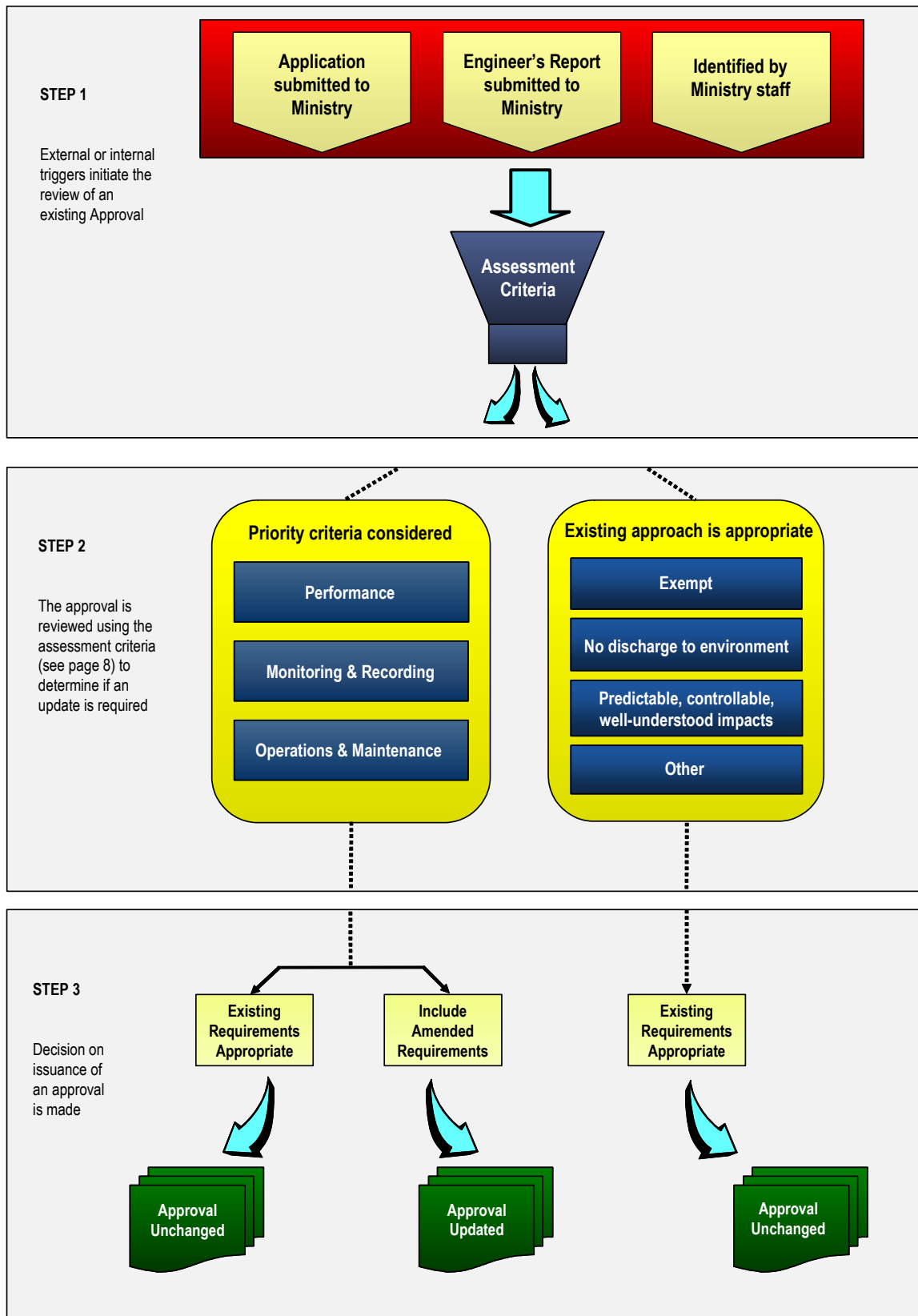
Once an application is submitted, the facility owner will receive an acknowledgement letter from the Ministry. This will reference the Ministry's intent to update the approval in accordance with the Protocol.

When an updated approval is drafted, a copy of the draft updated approval is sent to the facility owner for further review, as appropriate.

If an update to an approval is triggered by Ministry staff, through the course of their compliance, inspection or enforcement activities, the Ministry will either require that an application be submitted or initiate the update.

Upon completion, the final version of the approval is issued.

Figure 1: Process for Updating Approvals



Assessment Criteria for Drinking-Water Systems

The review of the existing approval for municipal residential Drinking-Water Systems is done using the assessment criteria, and may also be based on input from Ministry field and technical staff. The review will determine the extent to which the approval meets the following requirements:

- Current human health and environmental legislation, regulation, standards, policies, guidelines and procedures.
- Necessary, up-to-date operating requirements beyond those required by regulation.
- Relevant monitoring and reporting requirements beyond those required by regulation.

The review will also:

- include requirements to ensure a facility is capable of meeting the requirements set out in Ontario Regulations 169/03 (Ontario Drinking-Water Quality Standards) and 170/03 (Drinking-Water Systems) and can provide disinfection to meet the requirements set out in the Ministry's Procedure for Disinfection of Drinking Water in Ontario; and
- identify other site-specific requirements as appropriate.

This Protocol contributes to an overall cycle of continuous improvement so that the requirements for existing approvals will be made more consistent with the requirements placed on newly issued approvals.

Detailed Assessment Criteria

Drinking-Water Systems must meet the requirements set out in the Drinking-Water Systems Regulation (O. Reg. 170/03) and the Ontario Drinking-Water Quality Standards Regulation (O. Reg. 169/03) made under the *Safe Drinking Water Act, 2002*. As well, each system would require site specific conditions found in an approval which are as follows:

Performance

- Rated capacity for maximum flow rates and volume.

- Approved increases to rated capacity for the purposes of fighting fire or maintenance of the system.
- Limit on the concentration of suspended solids in the effluent discharge.

Monitoring and Recording

- Installation of flow-measuring devices sufficient for the recording of maximum flow rate and volume of water used in the system.
- Calibration of flow-measuring devices.
- Additional sampling and analysis for treated water for health and non-health related parameters.
- Additional sampling and analysis of residue discharge.

Operations and Maintenance

- Requirement for all chemicals and materials used in the operation of the system to meet all applicable standards.
- Operations manual to include procedures for monitoring and recording, equipment maintenance, contingency and complaint planning and Process and Instrumentation Diagram(s).
- Procedures for altering a system must be incorporated into the Operations Manual with updated Process and Instrumentation Diagram(s) prior to operation.

Future Alterations

- Future alterations to the Drinking-Water System may be approved.

Relief from Regulatory Requirements

- Where there is relief of regulatory requirement that is approved by the director, the certificate will outline which sections of the regulation must be complied with and the appropriate conditions will be incorporated.

Drinking-Water Systems Approvals Where Existing Approach/ Requirements are Appropriate

It is unnecessary to use this Protocol in circumstances such as the following:

- Where the approval for the storage and/or distribution of treated water, does not provide additional treatment;
 - Additional requirements for the protection of human health are generally not required for these approvals as minimum human health protection requirements are covered by regulation or are applied for at time of construction and have not fundamentally changed over time. Such facilities include watermains, forcemains, high lift and booster pumping stations, reservoirs and elevated tanks. However, these facilities may be assessed on a case-by-case basis when it is determined that additional disinfection should be added.
- Where a drinking-water system is taken out of service, the Director will consider the impact to the users and the environment and the approval may be revoked or amended as appropriate.

Despite the foregoing, the Ministry retains the authority to review and require new or amended requirements in an existing drinking-water systems approval at any time.

Appendix A: Key Ministry Documents Related to Drinking-Water Systems

- Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines – June 2003
- Procedure for Disinfection of Drinking Water in Ontario – June 2003
- Terms of Reference: Engineers' Reports for Water Works
- Guide for Applying for Approvals related to Municipal and Non-Municipal Drinking-Water Systems
- Other applicable Ministry documents

Many of these documents can be found at the Ministry of the Environment's Web site: <http://www.ene.gov.on.ca/envision/gp/index.htm> or can be obtained from:

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Environmental Assessment and Approvals Branch
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Toronto, ON
M4V 1L5

Telephone: (416) 314-8001 or Toll Free: 1-800-461-6290
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